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SELF-PERCEPTION OF NEEDS: A STUDY OF SECONDARY HEALTH OCCUPATIONS TEACHERS

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Abstract: Assessment of needs of individuals plays a major role in identifying curricular content and processes for professional growth and development. This study specifically addressed the technical knowledge and skills perceived by secondary Health Occupations teachers to be currently possessed or needed to be gained. General nursing care skills were found not to be needed. The greatest expression of need was for medical laboratory procedures and computer utilization.

Needs assessment of the intended student group has long been held to be a primary component of curriculum design. Not only has the assessment been a tenet of preservice educational program design but it has held a prominent role in continuing professional development of teachers. Curriculum theorists have advocated the identification of needs as a tool for student commitment, as well as the identification of content (Apps, 1985; Knowles, 1970; and Tyler, 1949). Technical skills. as well as those with the cognitive and affective domains are recognized as being within the arena of needs.

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Several studies of the various competencies for health occupations education (HOE) teachers can be found in the literature. Tuckwiller (1988) identified basic skills, defined as "the ability to read, write, and do math as measured by the California Achievement Test" (p. 3) of health occupations teachers in the state of West Virginia. Attention to math skills in the preparation of teachers was recommended. Instructional competencies of health occupations teachers were identified using Flanagants Critical Incident Technigue which was developed by Arlton (1975). Instructional methods and techniques, management, guidance, evaluation, and coordination were the behaviors found to be critical for secondary teachers. In addition, Walters (1984) developed an instrument to study the technical skills or occupational competencies of teachers in secondary HOE programs. The competencies identified and included in the instrument were obtained through a research study involving teachers and health practitioners employed in the health delivery system.

Although the state of Indiana has recently revised certification patterns for teachers, the needs of health occupations teachers currently holding a conditional vocational license or a standard teaching license in health occupations were unknown. Even though educated estimates were available for the present study, current data were unavailable for analysis. Thus, the current researcher was of the opinion that identification of the needs for technical skills or occupational competencies of HOE teachers would be a basic step in the design of future preservice, inservice, and continuing professional development educational programs.

Purpose of the Study

The purpose of this descriptive study was to collect and analyze data regarding the self-perceived needs of technical skills Or occupational competencies of secondary health occupations teachers. Specifically, the purpose of the study was formulated into the following research questions:

1. What are the competencies in which teachers feel they are competent but currently are not teaching?
2. What are the competencies in which teachers feel they are competent and currently are teaching?
3. What are the competencies for which teachers feel the need for training?

Methodology

Subject

The total population of secondary HOE teachers in the state of Indiana is small. Therefore, all 69 teachers were included in the study .

Instrumentation

The instrument used to collect the data was a modified version of the "Occupational Competency Profile For Health Occupations Education Program: Teacher Self-Assessment" questionnaire developed by Walters (1984a). The instrument was developed by Walters to assist teachers and prospective teachers in completing a self-assessment of their occupational competencies in order to identify the skills in which they have competency, but are not teaching, or currently are teaching; and those skills for which they may need training to teach in a health

occupations cluster program. The instrument is divided into three sections:

1. Hospital Departments (with 14 areas and 329 competencies),
2. Other Health Agencies (with 5 agencies and 114 competencies), and
3. Community Organizations (with 9 areas and 52 competencies).

Hospital Departments include those within the typical hospital setting: Business Office, Blood Bank, Cardio-pulmonary, Emergency Room, Medical Laboratory, Medical Records, Nursery, Nursing Care Services, Operating Room, Pharmacy, Physical Therapy, Radiology, Respiratory Therapy, and Unit Coordinator. Other Health Care agencies include: Dental Office, Family Practitioner Officer, Mental Health Center, Public Health Department, and Veterinary Clinic. Community Organizations include the American Cancer Society, American Dental Association, American/State Dental Health Bureau, American Heart Association, American Lung Association, American Red Cross, Health Fair, Lion's Club, and Scoliosis Research Society. Each competency in each area was assigned a response as to the self-perceived competence and/or need for further education.

Validity and reliability. The initial instrument was developed, reviewed by a panel of health occupations teachers, a teacher educator, and a state specialist, and revised as recommended. The final instrument received a 100% consensus on content, appropriateness, and clarity. The next step involved sending the instrument to all health occupations teachers in the state of Alabama and to health care agencies that worked cooperatively with the teachers for field testing.

The Cronbach Alpha reliability of the final instrument was .98 (Walters, 1984b).

The Walters instrument was modified for the purposes of the present study by deletion of the third section which related to the community orgenizations. Therefore, the modified guestionnaire contained the original section on hospital departments (with 14 areas and 329 competencies) and the original section on other health agencies (with 5 agencies and 14 competencies).

Data Collection and Analysis

The modified forced choice item instrument was mailed with a cover letter to all 69 teachers in secondary health occupations programs as identified in the Health Occupations Education Directory (Evans, 1988) for the state of Indiana. Data were analyzed using frequency and percentage distributions.

Findings

Forty-three (62%) of the 69 instruments were returned. All instruments were usable and processed.

The perceptions of the teachers are presented for each of the three response categories across the competency areas: (a) competent but not teaching, (b) competent and teaching, and (3) needs training in the following sections. Specific findings are followed by the broad general findings and only those responses representing above median percentages are included.

Competent--Not Teaching Category

Fifty-seven specific skills within the category of competent but not currently teaching received at least a 50% response by the

teachers. However, seven competencies in this category received at least a 67% response (Table 1):

1. Use duplicating machines
2. Copy Dr. 's orders onto Kardex
3. Complete lab request forms
4. Request paper supplies
5. Care of infant in Isolette
6. Clean equipment
7. Stock supplies

These competencies were identified by respondents as being the competencies which they perceived themselves as being able to perform but are not currently teaching.

Table 1

Frequency and Percentage Distribution of Respondents Expressing Self-Perceived Competence of Skill but Not Teaching the Skill

Skill	Department/Agency	N	R	n	%
Use of duplicating/xerox machine	Business/Hospital	33	26	79	
	Medical Records/Hospital	33	26	79	
Copy Doctor's orders onto Kardex	Unit Coordinator/Hospital	32	25	78	
Complete lab request forms	Unit Coordinator/Hospital	32	25	78	
Request paper supplies	Unit Coordinator/Hospital	31	23	74	
Care of infant in Isolette	Nursery/Hospital	34	24	71	
Clean equipment	Nursery/Hospital	34	24	71	
Stock supplies	Business Office/Hospital	32	24	75	
	Nursery/Hospital	34	24	71	
	Operating Room/Hospital	33	22	67	

Note: NR = Number of respondents to each competency.
n = Number of respondents indicating self-perceived competence but currently not teaching the competency.
% = Percentage of respondents to the specific category of need.

Competent and Teaching Category

The responding teachers identified 227 skills as those with which they were competent and which they currently are teaching. Forty-nine of the 227 skills received a minimum response of 70%.

1. Take vital signs
2. Weigh patients
3. Measure height of patients
4. Give range of motion exercise
5. Transport patient in wheelchair
6. Use Testape
7. Use Clinitest
8. Transport patient on stretcher
9. Perform First Aid and CPR
10. Transport patient in wheelchair with I.V.
11. Use Acetest
12. Use Chemstrips
13. Clean work stations and equipment
14. Dress/undress patients
15. Make beds
16. Collect urine specimens
17. Give, remove, and clean bedpans and urinals
18. Give AM and PM care
19. Prepare patients for meals
20. Carry food trays
21. Feed patients
22. Serve between-meal nourishment
23. Measure, record, and report intake/output
24. Give oral hygiene
25. Adjust a patient's bed
26. Give nail care to patient
27. Give back rub
28. Give bed bath
29. Give skin care
30. Give tub bath
31. Shampoo hair
32. Position a patient as directed
33. Clean thermometer
34. Admit patient
35. Discharge patient
36. Apply heat or cold packs
37. Give enemas
38. Apply arm sling
39. Apply triangular bandage
40. Apply splint
41. Ambulate patient
42. Move and turn patient
43. Keep patient unit neat and arranged for comfort and convenience
44. Fill water pitchers with ice and water

45. Perform isolation techniques -- handwashing, gown, cap, mask, and disposal of materials
46. Shave a patient's face
47. Answer patient unit signals
48. Run errands to other departments/units
49. Perform other duties as assigned

Table 2 presents only those competencies which received a minimum 80% response. In essence, a vast majority of HOE teachers felt capable of performing the competencies listed and currently are teaching those skills.

Table 2.

Frequency and Percentage Distribution of Perceived Competence of Skill and Currently Teaching the Skill.

Skill	Department/Agency	N	R	n	%
Give Range of Motion exercises	Nursing Care Services/Hospital	37	37		100
Take vital signs	Nursing Care Services	38	38		100
	Blood Bank/Hospital	34	33		97
	Respiratory Therapy Hospital	32	27		84
	Family Practice Medical Office	32	26		81
Weigh patients	Nursing Care Services/Hospital	3-1	35		95
	Blood Bank/Hospital	37	35		95
Measure height of patients	Nursing Care Services/Hospital	37	35		95
Transport patient in wheelchair	Business {Admissions)/Hospital	36	33		92
Collect urine specimens	Medical Laboratory/Hospital	35	31		89
Use Clinitest	Medical Laboratory/Hospital	35	29		83
Transport patient on stretcher	Business (Admissions)/Hospital	31	25		81
Use Testape	Medical Laboratory/Hospital	35	28		80

Note: NR = Number of respondents to each competency.
n = Number of respondents indicating self-perceived competence and currently teaching the competency.
% = Percentage of respondents to the specific category of need.

Need Training Category

Seventy-six skills received at least a 50% response indicating the need for training. Teachers expressed the need for training in several skill areas with the largest number being identified within the medical laboratory field. Specifically, the following 22 competencies received at least a 70% response:

1. Perform Sickle Cell Count
2. Perform Rheumatoid Arthritis screening procedure
3. Perform monospot procedure
4. Perform wbc differential
5. Perform bleeding time measurement procedure
6. Count platelets
7. Perform coagulation time procedure
8. Place animals in cages*
9. Work in the developing room*
10. Perform astigmatism vision screening*
11. Use hemacytometer
12. Perform RBC
13. Perform WBC
14. Use microhematocrit centrifuge
15. Determine Rh
16. Determine erythrocite sedimentation rate
17. Determine hemoglobin concentration
18. Compile annual drug list*
19. Hold animals for exam*
20. Use audiometer*
21. Perform Jaeger vision screening*
22. Perform hematocrit procedure in veterinary clinic*

As can be noted (denoted by asterisks) in the above list and in Table 3, only eight of the 22 competencies are outside the medical laboratory area. All of the competencies identified received a very high expression of need for training as indicated by the percentage of response.

While the expressed need for training was identified, the very low percentage of respondents on some competency areas indicated that further training related to those skills was not perceived

Table 3

Frequency and Percentage Distribution of Respondents Expressing Self-Perceived Need for Training of Skills

Skill	Department/Agency	N	R	n	%
Perform hematocrit	Veterinary Clinic	33	27	82	
Perform Sickle Cell Count	Medical Laboratory/Hospital	34	27	79	
Perform RA procedure	Medical Laboratory/Hospital	34	27	79	
Perform monospot procedure	Medical Laboratory/Hospital	32	25	78	
Perform WBC differential	Medical Laboratory/Hospital	35	27	77	
Perform bleeding time screening	Medical Laboratory/Hospital	34	26	76	
Perform Jaeger vision screening	Family Practice Medical Office	32	24	75	
	Public Health Agency	32	25	78	
Count platelets	Medical Laboratory/Hospital	35	26	74	
Perform coagulation time procedure	Medical Laboratory/Hospital	34	25	74	
Place animals in cages	Veterinary Clinic	33	24	73	
Work in developing room	Radiology/Hospital	33	24	73	
Perform astigmatism vision screening	Family Practice Medical Office	32	23	72	
	Public Health Agency	33	25	76	
Use hemacytometer	Medical Laboratory/Hospital	35	25	71	
Perform RBC	Medical Laboratory/Hospital	34	24	71	
Perform WBC	Medical Laboratory/Hospital	34	24	71	
Use microhematocrit centrifuge	Medical Laboratory/Hospital	34	24	71	
Determine Rh	Medical Laboratory/Hospital	34	24	71	
Determine erythrocite sedimentation rate	Medical Laboratory/Hospital	34	24	71	

(Table 3 - continued)

Skill	Department/Agency	N	R	n	%
Determine hemoglobin concentration	Medical Laboratory/Hospital	34	24	71	
Compile annual drug list	Pharmacy/Hospital	31	22	71	
Hold animals for exam	Veterinary Clinic	34	24	71	
Use audiometer	Public Health Agency	33	23	70	

Note: NR = Number of respondents to each competence.
N = Number of respondents indicating self-perceived need for training.
% = Percentage of respondents to the specific category of need.

to be needed. Receiving less than a 10% response were such skills as:

1. Take vital signs
2. Answer the phone; take messages
3. Give skin care
4. Collect of urine specimens
5. Use Clinitest and Testape
6. Weigh and measure height of patient
7. Give range of motion exercises
8. Fill water pitchers
9. Perform handwashing techniques
10. Give bottle to infant
11. Change diapers
12. Take axillary temperature
13. Burp infant
14. Dress/undress infant
15. Bathe infant
16. Take rectal temperature
17. Perform first aid and CPR
18. Transport patient in wheelchair
19. Make beds
20. Deliver reports/messages to other units

It is noteworthy that the first 16 items of this list only received a 3% or less response from the teachers in this study; therefore, this is indicative of a very low need for training in these competencies.

Generally, the teachers expressed a strong need for further training in specific tests and procedures in the Medical Laboratory and Medical Office areas. High response rates of 70-79% for procedures such as platelet counts, coagulation timing, RBC, WBC, and Rh determinations were found. The respondents indicated a need for skills in the handling of animals and specific laboratory procedures in the Veterinary Clinic. Computer usage for areas of the Business Office and Medical Records was a third area identified as a need for training. Procedures specific to Pharmacy, Radiography darkroom procedures, and cleaning of equipment in the Respiratory Therapy area were also identified as educational needs. In addition, instrumentation and the handling of restorative materials were aspects of the Dental Office for which teachers expressed the need for competence. Lastly, the skills to perform vision screening and the conduction of drug awareness programs for elementary, middle school, high school, and community populations were skills needed in working in Public Health Agencies.

The strong expression of need for educational experiences in non-nursing competency areas is not surprising. The vast majority of secondary teachers in the present study are from the nursing field. Few have medical technology, dental, or veterinary backgrounds. Additionally, the need for the development of computer skills appears to be reflective of the technological advances which have permeated both the educational and health care delivery systems.

Conclusions, Implications, and Recommendations

Conclusions

The following conclusions have been drawn on the basis of the analysis of data.

1. The greatest expressions of self-perceived need for training are in competency areas in medical laboratory procedures and computer utilization.

2. Other areas of expressed need are in specific skills related to the Dental Office, Respiratory Therapy, Veterinary Clinic, and Public Health Agency.

3. The need for training is not expressed for general nursing care skills. This is possibly due to most teachers having a background in nursing.

Implications

Secondary health occupations teachers who may be involved with educational programs having curricula containing skills and competencies reflective of changing technology as exemplified within the medical laboratory area may express the need to expand their technical skills in fields they consider to be outside their original practice area. Opportunities to gain basic or advanced knowledge about such competencies should be provided to address this need. A variety of possibilities exist for the provision of such opportunities.

Recommendations

Based upon the findings and the conclusions, two recommendations are made as follows: (a) Preservice and inservice educational experiences should incorporate opportunities to develop competencies in laboratory procedures and computer skills, and (b) continuing professional educational programs should attempt to address the expressed needs of secondary health occupations teachers. In addition, state conferences and university offerings should attempt to reflect

the self-perceived needs of these adults involved in the nexus of the educational and health care systems.

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